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July 23, 2019

Shrewsbury Planning Board
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**Subject: Edgemere Crossing at Flint Road
Site Plan Review**

Dear Planning Board Members:

We received the following documents in our office June 21, 2019:

- Plans entitled Site Plan for Edgemere Crossing at Flint Pond, 180-222 Hartford Turnpike dated June 19, 2019, prepared by R.J. O'Connell & Associates, Inc. for Route 20 Nominee Trust and Demoulas Super Markets, Inc. (56 sheets)

We also received the following documents in our office June 25, 2019:

- Bound document entitled Stormwater Report, Edgemere Crossing at Flint Pond, Shrewsbury, Massachusetts, dated June 19, 2019, prepared by R.J. O'Connell & Associates, Inc. for Route 20 Nominee Trust and Demoulas Super Markets, Inc.

Graves Engineering, Inc. has been requested to review the plans and supporting materials for compliance with the Rules and Regulations Governing Special Permits & Site Plan Review with amendments through September 7, 2017; Zoning Bylaw, Town of Shrewsbury, Massachusetts with amendments through October 22, 2018; Massachusetts Department of Environmental Protection (MassDEP) Stormwater Handbook and standard engineering practices.

Our comments follow:

Rules and Regulations Special Permit and Site Plan Review

1. GEI has no issues relative to compliance with the Shrewsbury Rules and Regulations Governing Special Permits & Site Plan review except as noted in the two following comments.
2. On Sheet C-2B, the southernly set of two handicap parking spaces at the 24,250 square-foot retail building needs more information to show proper grading (2% maximum in any direction). (§IV.1.g.19)
3. There needs to be delineation for any areas to be used as un/loading spaces. (§IV.1.g.12 & ZBL §VII.F.3.c.2)

Zoning Bylaw

4. GEI has no issues relative to compliance with the Shrewsbury Zoning Bylaw except as noted in the two following comments.
5. On Sheets L-1 and L-2B, there are two sections on the north side of the project between the two entrances that have a break in landscaping. The landscaping provided needs to be

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continuous along the edge of Route 20 or groupings with the equivalent of one canopy tree per 25 linear feet of frontage. (§VII.N.7.b)

6. The 24,250 square-foot retail building needs to include outdoor amenities. (§VII.N.9.d)
7. On Sheet C-4D, there may be a potential issue with reaching the rear side of Building 8A in the case of a fire. GEI defers to the Fire Department if there is adequate access for their emergency response needs. (§VII.F.3.c.7)

Hydrology & Stormwater Management Review

8. GEI has reviewed the hydrology (HydroCAD) calculations and found them to be in order except as noted in the following three comments.
9. GEI disagrees with the use of “Woods, fair” ground cover for modeling the wooded areas. Per TR-55, “woods, fair” represents ground cover whereby the woods are grazed but not burned, and some forest litter covers the soil. Based upon aerial photography and GEI’s understanding that the woods are currently not being used, the wooded areas appear to consist of “Woods, good” ground cover (the woods are protected from grazing, and litter and brush adequately cover the soil). Furthermore, Appendix C of MassDEP’s Hydrology Handbook for Conservation Commissioners states “Most woods in Massachusetts have forest litter and brush covering the soil and should be considered in “good hydrologic condition”. A few trails on the forest floor should not change this.” In short, the woods should be modeled as having “good” ground cover.
10. On Sheet C-7, the table shows the orifice for OCS-1 to be thirty-six inches by four inches which differs from the HydroCAD model. The orifice was modeled to be thirty inches by three inches. This information needs to be consistent.
11. On Sheets C-2A – C-2E, the discharge culvert pipes’ diameters and slopes for Basins 1 - 5 and Basin 7 are inconsistent with what was modeled in HydroCAD. This information needs to be consistent.
12. GEI has no issues with the pipe sizing calculations.
13. GEI has no issues relative to compliance with the MassDEP Stormwater Standards and Handbook.
14. On Page 12 of the Stormwater Report, the engineer has a table with drawdown calculations. GEI was unable to confirm the reported drawdown times using the other data provided in the table. Nevertheless, GEI’s estimated drawdown times met the MassDEP standard of no more than 72 hours. For the record, the design engineer should recheck the calculated draw down times to confirm they are correct and give an example of how the drawdown times were calculated.
15. References to the Cambridge Water Department need to be removed from Section 4 – Snow Management of the Stormwater Report. Also, relative to snow storage areas, Section 4 refers to a Site Layout Plan; the reference needs to be changed to the Snow Management Plan - Sheet SMP-1. GEI has no issues with the proposed snow storage locations (at parking areas) provided that stored snow is removed as necessary to maintain adequate parking for the retail and residential uses.

General Engineering Comments

16. On Sheet C-1C, there are two leader notes pointing to the existing 12-inch CI Grafton State Hospital Water Main. One leader states "Protect existing waterline until ... inspected and made operational" while the other states, "435 linear feet to be removed." However, the length of the waterline enclosed by the "cloud" line-type is approximately 715 feet. The design engineer needs to clarify the length of the water main to be removed.
17. On Sheets C-1A - C-1E, the infiltration basins will be utilized as as temporary sediment basins during construction. To preserve the intended infiltration rates, a note should be added to excavate the temporary sediment basins to one foot above the proposed infiltration basin bottom elevations and maintain those elevations until the tributary areas are permanently stabilized. Upon stabilization of the tributary areas, the bottoms of the basins can then be excavated to the proposed elevations and stabilized.
18. On Sheet C-4A, it is unclear if a sidewalk is proposed along Hartford Turnpike between the two project entrances. GEI understands that off-site improvement plans are being prepared by another engineer. Nevertheless, considering the new residential and retail uses and the pedestrian traffic these uses will generate, consideration should be given to a sidewalk along Hartford Turnpike.
19. On Sheet C-4B, a sidewalk should be provided from the main access driveway to the 24,250 square-foot retail building.
20. On Sheet C-7, the construction detail for the outlet control structure needs to provide the width and length of the structure.
21. On Sheet C-7, the construction detail for the drain manhole needs to include an invert channel.
22. A schedule of parking signs needs to be provided on the plans (e.g. details for W11A-2, R5-1, R1-1).

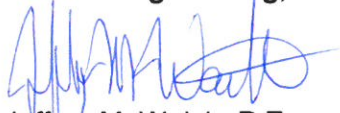
General Comments

23. On Sheet OS-1, the north arrow is facing the wrong direction and needs to be revised.
24. On Sheet OS-1, there is a typographical error for footnote 1. It refers to §VII.O.10.A for Mixed-Use Development and needs to be corrected to §VII.N.10.A
25. On Sheet OS-1, there appears to be a typographical error in the zoning table. Under the open space section, it refers to footnote 4; no such footnote is on this sheet.
26. GEI understands that a separate stormwater design and permit package for the off-site basins will be prepared by VHB and submitted as part of the off-site roadway improvement package.
27. GEI understands water and sewer utilities will be reviewed by Shrewsbury Water and Sewer Departments respectively.
28. GEI understands a traffic consultant will review on-site traffic circulation and vehicle parking configurations.

29. GEI understands the signs (other than traffic signs) will be reviewed by Shrewsbury Planning Board and/or Town Staff.

We trust this letter addresses your review requirements. Feel free to contact this office if you have any questions or comments.

Very truly yours,
Graves Engineering, Inc.



Jeffrey M. Walsh, P.E.
Principal